Issue statement

Soil in some areas of Washington State affected by historical emissions from metal smelters, historical uses of lead arsenate pesticides and other historical activities contains low to moderate levels of arsenic and lead. As Washington's population has grown and continues to grow, many of these areas have been, or will be, developed for residential neighborhoods, schools, parks, and other uses. Because concentrations of arsenic and lead in soil are often above State soil cleanup levels,

[Option 1 list types of concerns: these development activities have raised a number of health, environmental and marketplace concerns, as well as concerns about MTCA liability for land owners and developers.***]***

[Option 2 do not list concerns: these development activities have raised a number of concerns.***]***

Nature and Extent of Area-Wide Soil Contamination (potential finding)

[Placeholder for text from the N&E group – to be drawn from the preliminary estimates report executive summary.]

Approach to Evaluating Protective Measures

[Option 1: Discuss range of scientific views on arsenic and lead: There is scientific information demonstrating that exposure to high levels of arsenic and lead can cause health problems, particularly among children. However, the health risks associated with exposure to low-to-moderate levels of arsenic and lead in soil are less well understood. Little information is available about the risks associated with ingestion of arsenic and lead in soil, and the scientific community holds a range of views about how to interpret the available information. Some members of the scientific community argue that Federal and State efforts to address historical contamination are unjustified because information is inadequate to demonstrate that exposure to low-to-moderate levels of arsenic and lead in soil causes health problems. Others members of the scientific community argue that exposure to low-to-moderate levels of arsenic and lead in soil has the potential to cause subtle health problems over time, particularly for those populations that are sensitive to

the effects of arsenic and lead. The Task Force was not chartered to resolve these scientific disagreements.***]***

[Option 2: do not reference range of views: The Task Force was not chartered to evaluate or give recommendations on the scientific information available on exposures to low to moderate levels of arsenic and lead in soil.***]***

Rather, the Task Force evaluated the following question in light of its understanding of the range of views about the potential risks associated with exposure to low-to-moderate levels of arsenic and lead in soil:

> What are effective, practical, and affordable steps that people and communities might take to reduce exposure to arsenic and lead in soil, particularly for sensitive populations such as children?

In considering this question, the Task Force developed a number of guiding principles for responses to low-to-moderate levels of arsenic and lead in soil. These principles are:

- Low risk: despite the fact that concentrations of arsenic and lead in soil may be above State soil cleanup levels, the Task Force believes that the level of risk associated with exposures to low-to-moderate levels of arsenic and lead in soil appears to be low. Therefore, the Task Force recommends that, in general, protective measures be practical and low-cost, and that removal (i.e., excavation and off-site disposal) of soil containing only low-to-moderate levels of arsenic and lead generally is not necessary or appropriate.
- Focus on exposure of children: resources devoted to assessing and responding to area-wide soil contamination should be focused on locations where exposure is most likely and should be targeted at protecting the most sensitive population group – children. The likelihood of exposure and the duration or frequency of exposures of children are the most important factors in informing whether response actions are necessary and, where actions are needed, in informing the specific action selected.
- Responses increase as exposure increases: responses to area-wide soil contamination should be commensurate with the level of concern associated with potential exposures to low-to-moderate levels of arsenic and lead in soil. In general, the

intensity of responses to area-wide soil contamination should increase as exposures become more likely, more prevalent, or more intense, especially for children. This concept can be illustrated by a simple diagram: ***[Placeholder for the rectangle-with-a-line-through-it diagram (see final page of this document).]***

- Decisions should be made locally: in general, the Task Force recommends what it believes are practical and low-cost solutions given the risk involved. However, each person or institution affected can implement response that meets his/her priorities, objectives and tolerance for risk, even if those responses are more costly than those recommended by the Task Force.

Beyond the broad-based education and awareness building discussed below, the Task Force does not recommend that additional responses are necessary at every individual property with low-to-moderate levels of arsenic and lead in soil. However, at some properties, additional responses beyond broad-based education and awareness building are appropriate, for example where children or present or high concentrations of arsenic or lead are found. Regardless of risk or exposure, each person or institution affected may choose to implement additional responses based on personal preferences or other institutional or personal goals.

Broad-Based Education and Awareness Building (potential recommendation)

In most circumstances, the Task Force believes that individuals should select responses to area-wide soil contamination for their individual properties. To inform this decision, the chartering agencies should work with and through local governments, particularly local health departments, to increase knowledge of area-wide soil contamination through broad-based education and awareness building activities. To target resources effectively, the chartering agencies should take a step-wise approach to providing information about area-wide soil contamination.

- Step 1: the chartering agencies should provide basic, overview educational materials about the area-wide soil contamination issue throughout the state through a website and by making paper copies available where needed ***[review question: other means?]***. Materials should be made available in appropriate languages for various potentially affected communities.

- Step 2: where area-wide soil contamination is likely, the chartering agencies should provide a tool-box of information and materials to help individuals (e.g., parents) and organizations (e.g., schools) answer questions about the potential for arsenic and lead contamination at specific properties ***[placeholder for N&E mapping and flowchart materials]*** and identify actions they can use to reduce exposure to arsenic and lead. This tool-box should include materials, such as those developed by Public Health Seattle King County, that encourage good personal hygiene practices designed to reduce exposure to arsenic and lead in soil, such as frequent hand washing with soap and water. Additional targeted materials should be developed for the following specific audiences:
    - Parents of young children
    - Daycare providers and preschool operators
    - Schools
    - Gardeners
    - [Other?]

  Targeted materials for daycare providers, preschool operators and schools should explain how to qualitatively assess whether there is the potential for children to be exposed to arsenic and lead in soil and, if potential exposures exist, how to mitigate these exposures through implementation of Best Management Practices (BMPs) or other appropriate means. (See Child Use Areas, below.) Finally, the chartering agencies should provide briefings for local health departments and other appropriate organizations to facilitate informed distribution of educational materials.
- Step 3: where area-wide soil contamination is known to exist, the chartering agencies should provide additional outreach, education and resources. ***[Review question: describe more specifically?]***

Areas potentially affected by smelter emissions and/or historical use of lead arsenate pesticides are identified in ***[attachment 1: table and map from preliminary estimates executive summary and/or additional information from N&E mapping efforts.]*** Areas where area-wide contamination is likely include counties potentially affected by smelter emissions such as King, Pierce, Snohomish, and Stevens, and counties potentially

affected by historical uses of lead arsenate pesticides, such as Benton, Chelan, Clark, Columbia, Cowlitz, Douglas, Grant, King, Kittitas, Klickitat, Lewis, Lincoln, Okanogan, Pierce, San Juan, Skamania, Snohomish, Spokane, Stevens, Thurston, Walla Walla, Whatcom, Whitman and Yakima. ***[Review issue – need input from full TF on whether to list the counties.]***

Education and awareness building should be focused on issues associated with children and their potential exposure to low-to-moderate levels of arsenic and lead in soil. The most important audiences for education and awareness building are people and organizations that care for or work with children, including parents, educators, and health- and child-providers.

[Review question: what do you want to say about monitoring/evaluating the effectiveness of education and outreach programs?]

<u>Child-Use Areas (potential recommendation)</u>

In addition to the broad-based education and awareness building discussed above, the chartering agencies should give special consideration to child use areas. Where area-wide soil contamination is likely, the chartering agencies should encourage local jurisdictions and individual property owners to carry out qualitative assessments of the potential for problematic exposures to arsenic and lead in soil in places where children routinely play, and should assist with such assessments. ***[Review question: do you want to give any guidance on how qualitative assessments should be carried out?]*** A problematic exposure is, for example, direct, daily contact with or inhalation of (e.g., "ingestion of") contaminated soil over a period of months, or direct contact with particularly high concentrations of arsenic or lead.

Where the potential for a problematic exposure is identified, the chartering agencies should help local jurisdictions and individuals do two things.

- First, the chartering agencies should help local jurisdictions and individuals implement Best Management Practices (BMPs) to limit the potential for contact with

soil. These practices include activities such as maintaining good grass or other soil covers, damp mopping indoor floors (or vacuuming with a HEPA-equipped vacuum cleaner), and frequent hand washing with soap and water. ***[Placeholder for attaching the Public Health Seattle/King County individual protection measures: BMPs are described in attachment ___.]*** Wherever practical, implementation of BMPs should be integrated with the normal, ongoing maintenance and upkeep practices for areas where children routinely play and other routine practices.

- Second, the chartering agencies should help local jurisdictions and individuals determine if a quantitative assessment (i.e., sampling) is appropriate. Where quantitative assessments are appropriate, the chartering agencies should assist with the assessments and interpretation of results. Where results indicate that responses in addition to BMPs are appropriate, the chartering agencies should assist local jurisdictions and individuals in selecting and implementing the appropriate protective measures. ***[Review question: do you want to suggest a hierarchy of PM or just reference back to the rectangle-with-a-line-through-it diagram?]***

[Review question: do you want to recommend implementation of BMPs before / instead of assessments in some areas?]

<u>Commercial-Use Areas (potential recommendation)</u>

As discussed above, the chartering agencies should ensure that their responses to area-wide soil contamination are targeted at situations where concern is greatest. In general, commercial areas are not frequently used for play by young children, and, in any case, tend to be covered with impervious surfaces such as buildings, parking lots, or other man-made and maintained cover such as landscaping bark or gravel. Where these types of surfaces are in place, the Task Force recommends that no further response actions are necessary to address area-wide soil contamination in commercial areas.

<u>Real Estate Disclosure (potential recommendation)</u>

[Placeholder for language to be developed.]

Terms and Uses (definition section)

1. "Elevated" and "Contaminated" both mean soil has concentrations of arsenic or lead that are greater than the current MTCA cleanup standards of 20 ppm arsenic and 250 ppm lead.

2. "Ingestion" means to swallow contaminated soil, either from inhaling and then swallowing soil particles (the most common method) or by directly placing soil into the mouth

Draft Diagrams to Illustrate the Relationship between Potential Exposure and the Intensity of Responses